

Customer No.: 31561
Docket No.: 12539-US-PA
Application No.: 10/708,428

In The Specification:

Please amend paragraph [008] as follows:

FIG. 2 schematically illustrates a conventional transmitter with a synchronous detector as a carrier leakage detector. Referring to FIG. 2, a radio frequency (RF) peak detector 270 is inserted and electrically coupled between the radio frequency amplifier ~~248~~128 and the quadrature modulator 200. The RF peak detector 270 detects a carrier leakage and feeds back to the quadrature modulator 200 for correction. Although the design is able to detect a carrier leakage of a transmitter, ~~but~~ it also creates several problems. First, the input capacitors of the MOS transistors of the radio frequency peak detector 270 create problems in manufacturing and cost and impedance tuning required when a change in radio frequency is made in the transmitter. In addition, when a new manufacturing process, such as a 0.18 μ process, the RF peak detector 270 has to be redesigned for meeting new requirements, which is not very convenient. Next, it also affects a circuitry of the quadrature modulator 200 during normal operation especially in high frequency. Moreover, detection in high frequency not only affects a performance of the circuitry, but also increases high capacitive loading of an oscillator output, which is undesired.

Please amend paragraph [032] as follows:

Referring to FIG. 4A, current sinks 440a and 440b are inserted and electrically coupled between the base band transconductance stage 430a and the switching pair 432a, and the base band transconductance stage ~~430a~~430b and the switching pair 432b

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respectively. In which, the current sinks 440a and 440b are able to detect a current offset due to the mismatch in the base band filters 412a, 412b.